

Serial No.: 10/681,220
Examiner: Alexander Gilman

In the claims:

The claims, while not amended, are listed below for the Examiner's convenience.

1. (original) A coaxial electrical connector for mating a coaxial transmission line having a center conductor and an outer conductor with an electrical device, said connector comprising:

a substantially cylindrical outer conductor having spaced first and second end portions, and an elongate central portion intermediate said end portions, said cylindrical outer conductor having an axial bore therethrough;

a dielectric insulator fixed within said bore at said center portion;

a coupling mechanism mating said coaxial transmission line to said substantially cylindrical outer conductor;

an inner conductor within said insulator and extending coaxially within the bore, said inner conductor having first and second end portions corresponding to said first and second end portions of said cylindrical outer conductor and a central portion corresponding to said central portion of said cylindrical outer conductor, said first end portions interfitting with the coaxial transmission line such that said first end portion of said inner conductor mates with the center conductor of the coaxial transmission line, said first end portion of said cylindrical outer conductor mates with the outer conductor of the coaxial transmission line and said second end portions being mateable with the electrical device; and

a dielectric member disposed between one of (1) the first end portion of the inner conductor of the connector and the center conductor of the coaxial transmission line and (2) the

132783

Page 2

Serial No.: 10/681,220
Examiner: Alexander Gilman

first end portion of the cylindrical outer conductor of the connector and the outer conductor of the coaxial transmission line, so as to prevent a direct electrical contact therebetween.

2. (original) The connector as claimed in claim 1, wherein said dielectric member is a first dielectric member and wherein a second dielectric member is disposed between the other of (1) the first end portion of the inner conductor of the connector and the center conductor of the coaxial transmission line and (2) the first end portion of the cylindrical outer conductor and the outer conductor of the coaxial transmission line.

3. (original) The connector as claimed in claim 1, wherein said center conductor of the coaxial transmission line is a hollow center conductor, and wherein said dielectric member is disposed between the first end portion of the inner conductor and the center conductor of the coaxial transmission line, said first end portion of said inner conductor protruding inside said hollow center conductor.

4. (original) The connector as claimed in claim 1, wherein said first end portion of said inner conductor includes a hollow portion in which said center conductor of said coaxial transmission line is received and wherein said dielectric member is disposed between the first end portion of the inner conductor and the center conductor of the coaxial transmission line.

Serial No.: 10/681,220
Examiner: Alexander Gilman

5. (original) The connector as claimed in claim 1, wherein said dielectric member is disposed between the first end portion of the cylindrical outer conductor and the outer conductor of the coaxial transmission line, and wherein said outer conductor of coaxial transmission line is received in said first end portion of said cylindrical outer conductor.

6. (original) The connector as claimed in claim 1, wherein said dielectric member is disposed between the first end portion of the cylindrical outer conductor and the outer conductor of the coaxial transmission line, and wherein said outer conductor of coaxial transmission line circumscribes said first end portion of cylindrical outer conductor.

7. (original) The connector as claimed in claim 1, wherein said dielectric member is disposed between the first end portion of the cylindrical outer conductor of the connector and the outer conductor of the coaxial transmission line, and said coupling mechanism includes a dielectric coupling nut.

8. (original) The connector as claimed in claim 1, wherein the dielectric member is disposed between the first end portion of the cylindrical outer conductor and the outer conductor of the coaxial transmission line, and wherein said coupling mechanism further comprises a resilient gland disposed at a distal end of the dielectric member, said resilient gland providing a moisture barrier and coupling the coaxial transmission line to the connector.

Serial No.: 10/681,220
Examiner: Alexander Gilman

9. (original) The connector as claimed in claim 2, wherein said coupling mechanism further comprises a resilient gland disposed at a distal end of the one of first and second dielectric members disposed at the outer conductor of the coaxial transmission line, said resilient gland providing a moisture barrier and coupling the coaxial transmission line to the connector.

10. (original) The connector as claimed in claim 1, wherein the first end portion of the cylindrical outer conductor includes a dielectric layer coaxial to and surrounding the dielectric member disposed between one of (1) the first end portion of the inner conductor and the center conductor and (2) the first end portion of the cylindrical outer conductor and the outer conductor of the coaxial transmission line, and the coupling mechanism includes a conductive gland disposed at a distal end of the first end portion of the cylindrical outer conductor.

11. (original) The connector as claimed in claim 9, wherein the first end portion of the cylindrical outer conductor includes a dielectric layer coaxial to and surrounding the first and second dielectric members and wherein the coupling mechanism includes a conductive gland disposed at a distal end of the first end portion of the cylindrical outer conductor.

12. (original) The connector as claimed in claim 1, wherein said connector further comprises a shunt short circuit stub disposed adjacent to a junction between the center portion and the first end portion of respective cylindrical outer conductor and inner conductor, said shunt short circuit stub widening a bandwidth of transmitted signals in which return losses are minimized.

Serial No.: 10/681,220
Examiner: Alexander Gilman

13. (original) The connector as claimed in claim 11, wherein said connector further comprises a shunt short circuit stub disposed adjacent to a junction between the center portion and the first end portion of respective cylindrical outer conductor and inner conductor, said shunt short circuit stub widening a bandwidth of transmitted signals in which return losses are minimized.

14. (original) The connector as claimed in claim 1, wherein said connector further comprising a shunt short circuit stub disposed adjacent to a junction between the center portion and the first end portion of respective cylindrical outer conductor and inner conductor, said shunt short circuit stub compensating for a reactance of at least one of first end portion of cylindrical outer conductor and inner conductor.

15. (original) The connector as claimed in claim 1, wherein the connector operates in a frequency between 800 MHz and 6000 MHz.

16. (original) A coaxial connector for mating a coaxial cable having a center conductor and an outer conductor with an electrical device, said connector comprising:

an outer connector body having an axial bore therethrough;

a dielectric insulator fixed within said bore at said center portion;

an inner conductor within said insulator and extending coaxially within the bore;

132783

Page 6

Serial No.: 10/681,220
Examiner: Alexander Gilman

a coupling mechanism mating said coaxial cable to said outer connector body; and
a dielectric sleeve disposed between one of (1) the inner conductor and the center conductor and (2) the outer connector body and the outer conductor, so as to prevent a direct electrical contact therebetween.

17. (original) The connector as claimed in claim 16, wherein said dielectric sleeve is an inner dielectric sleeve disposed between the inner conductor and the center conductor, and wherein an outer dielectric sleeve is disposed between the outer connector body and the outer conductor, said inner and outer dielectric sleeves preventing direct electrical contact between said connector and coaxial cable, and said coupling mechanism comprises a dielectric coupling nut and a resilient gland disposed at a hollow receiving cavity of said dielectric coupling nut, said resilient gland providing a moisture barrier and coupling the coaxial cable to the connector.

18. (original) The connector as claimed in claim 17, wherein the connector further comprises a dielectric layer coaxial to and surrounding the inner and outer dielectric sleeves and the coupling mechanism includes a conductive gland disposed at a distal end of the outer connector body and adjacent to said resilient gland.

19. (original) The connector as claimed in claim 18, wherein said connector further comprises a shunt short circuit stub disposed adjacent to a junction between the center portion and the first end portion of each cylindrical outer conductor and inner conductor, said shunt short

Serial No.: 10/681,220
Examiner: Alexander Gilman

circuit stub compensating for a reactance of said distal end of cylindrical outer connector body and inner conductor.

20. (original) A coaxial connector for mating a conventional coaxial cable having a center conductor and an outer conductor with an electrical device, said connector comprising:
- an outer connector body having an axial bore therethrough;
 - a dielectric insulator fixed within said bore at said center portion;
 - an inner conductor within said insulator and extending coaxially within the bore;
 - a coupling mechanism mating said coaxial transmission cable to said outer connector body; and

at least one of (1) a series open circuit outer stub coaxially disposed at an end of the outer connector body mating with the outer conductor of the coaxial cable and (2) a series open circuit inner stub coaxially disposed at an end of the inner conductor mating with the center conductor of the coaxial cable.

21. (original) The connector as claimed in claim 20, wherein said connector comprises said series open circuit outer stub and said series open circuit inner stub, said connector further comprising a dielectric choke disposed inside an end portion of the outer connector body mating with the outer conductor of the coaxial cable, said choke coaxially surrounding said series open circuit outer and inner stubs, and said coupling mechanism comprising a conductive resilient

Serial No.: 10/681,220
Examiner: Alexander Gilman

gland disposed at a hollow receiving cavity of said coupling mechanism, said resilient gland providing a moisture barrier and coupling the coaxial cable to the connector.

132783

Page 9